
# National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Category: Large Appliances Surface Coating Operations

## Background Information for Promulgated Standards

EPA-453/R-02-004

# National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Category: Large Appliances Surface Coating Operations - Background Information for Promulgated Standards

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Emission Standards Division

U.S. Environmental Protection Agency
Office of Air Quality Planning and Standards
Research Triangle Park, North Carolina 27711

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ENVIRONMENTAL PROTECTION AGENCY

Large Appliances
Surface Coating Operations -

Background Information for Promulgated Standards

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_____ _____

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1. The final National Emission Standards for Hazardous Air Pollutants (NESHAP) will regulate emissions of hazardous air pollutants from the storage and use of coatings, thinners, and cleaning materials associated with the surface coating of large appliance parts and products. Only those operations that are part of major sources under section 112(d) of the Clean Air Act as amended in 1990 will be regulated.

2. Copies of this document have been sent to the following Federal Departments: Labor, Health and Human Services, Defense, Transportation, Agriculture, Commerce, Interior, and Energy; the National Science Foundation; the Council on Environmental Quality; members of the State and Territorial Air Pollution Program Administrators; the Association of Local Air Pollution Control Officials; EPA Regional Administrators; and other interested parties.

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   • Set Internet Browser to:
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# 1.0 SUMMARY

On December 22, 2000, the U.S. Environmental Protection Agency (EPA) proposed national emission standards for hazardous air pollutant (HAP) emissions from large appliance surface coating operations at major source facilities (65 FR 81134). These proposed standards implemented section 112(d) of the Clean Air Act as amended in 1990 (CAA or the Act). There were 17 comment letters on the proposal (see Table 1-1), and the commenters consisted of trade associations, manufacturers, associations representing State and local air pollution control agencies, and U.S. Government agencies. Summaries of the comments, and the EPA's responses, are presented in this background information document (BID Volume II). This summary of comments and responses served as the basis for the revisions made to the rule between proposal and promulgation. Besides summarizing the comments and responses, this document also presents a summary of the significant rule revisions. This document supplements BID Volume I, "National Emission Standards for Hazardous Air Pollutants (NESHAP) for Source Category: Large Appliances Surface Coating Operations - Background Information for Proposed Standards," September 2000, EPA Document No. EPA-453/R00-006 (Docket A-97-41, item III-B-1).

TABLE 1-1. LIST OF COMMENTERS ON THE PROPOSED NESHAP FOR LARGE APPLIANCE SURFACE COATING OPERATIONS

| Item No. in Docket A-97-41 | Commenter and Affiliation |
|---|---|
| IV-D-1 | Ray Rusek<br>Maytag Appliances<br>Newton, IA |
| IV-D-2 | Elsie Munsell<br>Department of the Navy<br>Department of Defense (DOD)<br>Washington, D.C. |
| IV-D-3 | Robert Colby, Association of Local Air Pollution Control Officials (ALAPCO) &<br>Bliss Higgins, State and Territorial Air Pollution Program Administrators (STAPPA)<br>Washington, D.C. |
| IV-D-4 | Robert Nelson & Alison Keane<br>National Paint & Coatings Association (NPCA)<br>Washington, D.C. |
| IV-D-5 | Valerie Ughetta<br>Alliance of Automobile Manufacturers<br>Washington, D.C. |
| IV-D-6 | Kimberly Bowden<br>Delphi Automotive Systems<br>Troy, MI |
| IV-D-7 | Karim Amrane<br>Air-Conditioning & Refrigeration Institute (ARI)<br>Arlington, VA |
| IV-D-8 | David Foerter<br>Institute of Clean Air Companies (ICAC)<br>Washington, D.C. |
| IV-D-9 | Robert Streight<br>Visteon Corporation<br>Dearborn, MI |
| IV-D-10 | Steven Marks<br>General Electric Appliances (GEA)<br>Louisville, KY |
| IV-D-11 | Steve Rasmussen<br>Hill Air Force Base<br>U.S. Air Force (USAF) |
| IV-D-12[a] | Steve Bachellor<br>Lennox International Inc.<br>Richardson, TX |

TABLE 1-1. (Concluded)

| Item No. in Docket A-97-41 | Commenter and Affiliation |
|---|---|
| IV-D-13 | Allen Irish, NPCA<br>Karim Amrane, ARI<br>K.J. Kromer, Association of Home Appliance Manufacturers (AHAM)<br>Washington, D.C. |
| IV-D-14 | Jonathan Pawlow<br>Office of Advocacy<br>Small Business Administration (SBA)<br>Washington, D.C. |
| IV-D-15 | Robert Karwowski<br>Whirlpool Corporation<br>Benton Harbor, MI |
| IV-D-16 | Robert Mulliner<br>The Trane Company<br>LaCrosse, WI |
| IV-D-17 | Janice Bardi<br>American Society for Testing and Materials (ASTM)<br>West Conshohocken, PA |
| IV-F-1(A) | Public Hearing Transcript<br>Robert Nelson<br>NPCA |
| IV-F-1(B) | Public Hearing Transcript<br>Karim Amrane<br>ARI |

[a] This item was claimed by the commenter as confidential business information (CBI), and is not available in the public docket.

# 2.0 CHANGES TO THE RULE FOLLOWING PROPOSAL

In response to public comments received on the proposed standards, we made several changes in developing the final rule. While some of the changes were designed to make our intentions clearer, other changes had a direct effect on the degree of coverage of the standards. The rationales for these rule changes are discussed in more detail in Section 3.

In the proposal, we defined the regulated community for these standards to be facilities that apply surface coatings to large appliances or components of large appliances. In the proposal BID and the table of regulated entities in the proposal preamble (65 FR 81135), we stated that these facilities are generally included under the following SIC codes (and their NAICS code equivalents): 3631 (335221), 3632 (335222), 3633 (335224), 3639 (335228), 3585 (333415), and 3589 (333319). We cautioned that some facilities and products with these codes do not fit under the large appliance category, and similarly, there may be facilities under other codes that do in fact coat large appliances. Thus, these industrial codes were given as a guide but were not intended to be used as the primary basis for determining applicability of this rule.

The codes listed above are associated with household cooking equipment, refrigerators/freezers, laundry equipment, and floor vacuums and polishers (SIC 3639), and various types of commercial and industrial heating, ventilation, and refrigeration equipment (SIC 3585). Table 2-1 in the proposal BID listed examples of large appliances that are produced by facilities in these SIC categories.

Several commenters stated that the scope of the category as proposed was overly broad and confusing. They also felt that we had included several products not normally considered to be large appliances, and that these products should be regulated under the

Miscellaneous Metal Parts and Products (MMPP) NESHAP currently under development. As an alternative if EPA decided not to change the mix of products defined to be large appliances, one commenter suggested that we change the name of the source category to better match the product mix being represented.

Our proposed definition of the large appliances source category was formed using the six SIC/NAICS codes as a foundation, and then including the products under those codes that we believed should be included as large appliances. There may have been confusion when comparing the preamble table to BID Table 2-1. We have clarified our intent by including definitions for large appliance product and large appliance part in the final rule. These definitions include "white goods" appliances, as well as certain heating, ventilating, and air-conditioning (HVAC) equipment used in commercial and industrial applications. However, specifically excluded from the definition of large appliance product are heat transfer coils, large commercial and industrial chillers, and motor vehicle air-conditioning units. These definitions list the parts and products intended to be regulated under the final rule, and they supercede the listing in Table 2-1. We also modified the proposal preamble table and are including it in this BID. We have added Commercial Laundry Equipment and have deleted Floor Waxing/Polishing and Motor Vehicle Air-Conditioning, in keeping with our intention at proposal. Finally, as discussed in Section 3.1, we have also deleted heat transfer coils and large chillers from this table and from coverage by this NESHAP.

A few commenters stated that the heat transfer coils used to cool fluids in refrigeration and air-conditioning systems typically have unique coating formulation requirements, and suitable coatings are not available in a low-HAP formulation. The need for special coatings arises from the complex geometry of heat transfer coils, as well as exposure requirements in food

processing and other special environments. The coating information we collected and used to determine the MACT floors did not contain any coatings used specifically for heat transfer coils. We have examined the submitted information and comments and have decided that the data analyzed since proposal offer sufficient justification to warrant revising the proposal. Therefore, we have excluded heat transfer coils from coverage under the Large Appliances NESHAP.

One company and one trade association made the comment that the proposed new source emission limit of 0.022 kg/liter (0.18 lb/gal) would be impossible to meet for facilities coating certain large HVAC equipment; specifically, commercial and industrial chillers. They felt that these operations should either be treated as a separate subcategory or be considered under the MMPP category.

The commenters listed several factors in support of their position. They said that these large HVAC products are produced in much lower volumes than white goods, are often subjected to outdoor environments, and have a longer expected life. Commercial and industrial chillers are much larger than most other large appliances and are usually painted after assembly. Therefore, they cannot be put through a baking oven to cure the coating (which precludes the use of powder coatings). The commenters concluded that no operations of this type would be constructed if the definition of large appliance contained these large chillers and if the proposed new source limit applied to these large chillers.

The EPA requested additional supporting data on large commercial and industrial chiller equipment coating operations and the available coatings. We also visited one of the few facilities that manufacture this equipment. First, we determined the applicability of large commercial and industrial chillers as a large appliance component. We concluded that because of their

unusual size and shape, heavy manufacturing techniques and industrial applications, and the inability to match these attributes into the definition as a large appliance, the EPA should exclude large chillers from the large appliance category. Therefore, the Large Appliances NESHAP will not apply to large commercial and industrial chillers in the final rule.

We also clarified the applicability of certain coatings in response to questions raised by commenters. The final rule clarifies that porcelain enamels, powder coatings, and asphalt interior soundproofing coating will be considered as coatings subject to this subpart. However, phosphating (a form of pretreatment) and metal plating are excluded from applicability of this subpart.

We added several other new definitions to §63.4181 in response to comments and to increase the clarity of the rule. Newly defined terms include *adhesive*, *large commercial and industrial chillers*, *facility maintenance*, *heat transfer coil*, and *month*. Clarifying changes were also made to the proposed definitions for *coating operation*, *manufacturer's formulation data*, and *surface preparation*.

# 3.0 COMMENTS

## 3.1 Applicability/Scope of Category

Comment: Three commenters (IV-D-1, IV-D-4 and IV-F-1(A), IV-D-7) believed that the proposed scope of the large appliances source category poses problems due to its broadness. The commenters felt that this NESHAP should apply to the same product group covered by the new source performance standards (NSPS) for large appliances (40 CFR part 60, subpart SS). The NSPS affects traditional "white goods" (i.e., ranges, ovens, refrigerators, dishwashers, etc.) manufactured for household, commercial, or recreational use. They felt that the inclusion of other items such as smaller home appliances and heating and air-conditioning equipment, confuses the regulated community.

One of the commenters (IV-D-1) recommended that the large appliance source category be more definitive. The proposed definition says that large appliance parts and products "include, but are not limited to, heating and air conditioning units and parts, chillers, household refrigerators and home and farm freezers, household laundry equipment, household cooking equipment, dishwashers, floor waxers and polishers, garbage disposal units, trash compactors, and water heaters." The commenter suggested that the EPA delete the phrase "but are not limited to" in order to remove the ambiguity.

Response: The NSPS (47 FR 47778, October 27, 1982) defined the large appliance category as consisting of appliances known throughout the industry as "white goods." The NSPS source category includes clothes washers and dryers, electric and gas ranges and ovens, microwave ovens, refrigerators and freezers, dishwashers, water heaters, and trash compactors. In the proposed Large Appliances NESHAP, we used the NSPS definition as a starting point but did not limit the definition of the category to white goods. The proposed NESHAP identified heating and air-

conditioning units and parts, chillers, floor waxers and polishers, and garbage disposal units as additional components of the large appliance category. In a table of *Regulated Entities* in the preamble to the proposed rule (65 FR 81135), we also included the product descriptions of household vacuum cleaners, motor vehicle air conditioners, and service industry machinery.

While the large appliance definition in this rule is different from the NSPS definition, the EPA does not believe including surface coating processes for certain additional manufactured goods that have similarities to white goods will create confusion if the final rule clearly defines the source category and the affected source. However, we agree with the commenters that the proposed source category definition was too broad, and we have deleted some of the products. For clarification purposes, we have added definitions for large appliance parts and products to the final rule, which specifically indicate the types of appliances that are subject to the rule. This language also lists specific items that are included under the appliance SIC or NAICS codes, and yet are excluded from coverage. The phrase "but are not limited to" has been retained because it is not possible to list the full range of existing and future products that qualify as large appliances. The new definition for *large appliance product* is as follows: "*Large appliance product* means, but is not limited to, any of the following products (except as provided under §63.4081(d)(3)) manufactured for household, recreational, institutional, commercial, or industrial use:

(a) cooking equipment (ovens, ranges, and microwave ovens, but not including toasters, counter-top grills, and similar small products);

(b) refrigerators, freezers, and refrigerated cabinets and cases;

(c) laundry equipment (washers, dryers, drycleaning machines, and pressing machines);

(d) dishwashers, trash compactors, and water heaters; and

(e) heating, ventilation, and air-conditioning (HVAC) units, air-conditioning (except motor vehicle) units, air-conditioning and heating combination units, comfort furnaces, and electric heat pumps. Specifically excluded are heat transfer coils and large commercial and industrial chillers."

We believe that this definition in the final rule clearly describes the universe of surface coating operations that this rule is intended to cover.

In addition to developing this definition, we have modified the preamble table showing potentially regulated entities, and we are including the table in this document as Table 3-1. Note that this table is not meant to indicate applicability on the basis of the SIC or NAICS codes themselves, because some of the products manufactured under these codes are not considered to be large appliances for the purposes of the final rule. For instance, Carnival and amusement park ride equipment manufacturing (SIC 3599), Flight simulator equipment manufacturing (SIC 3699), and Automobile alignment and mounting machinery manufacturing (SIC 3559) are not considered large appliances in this rule.
Table 3-1 has been modified from the table in the proposal preamble in the following ways:

(1) former item 5, Floor Waxing/Polishing and Household Vacuum Cleaners (SIC 3639/NAICS 335212);

(2) clarified the inclusion of Commercial Laundry Equipment, etc. (SIC 3582/NAICS 333312);

(3) inserted exclusion for Motor Vehicle Air-Conditioning, Large Chillers, and Heat Transfer Coils (SIC 3585/NAICS 333415); and

(4) former item 7, Motor Vehicle AC (SIC 3585/NAICS 336391).
These changes are discussed further in the responses below.

TABLE 3-1. POTENTIAL REGULATED ENTITIES

| Product Description | 1987 SIC Code | Equivalent 1997 NAICS Code | 1997 NAICS Product Description |
|---|---|---|---|
| Household Cooking Equipment | 3631 | 335221 | Household Cooking Appliance Manufacturing |
| Household Refrigerators and Home and Farm Freezers | 3632 | 335222 | Household Refrigerator and Home Freezer Manufacturing |
| Household Laundry Equipment | 3633 | 335224 | Household Laundry Equipment Manufacturing |
| Household Appliances, not elsewhere classified, e.g., dishwashers, water heaters and garbage disposals and compactors | 3639 | 335228 | Other Major Household Appliance Manufacturing |
| Commercial Laundry Equipment | 3582 | 333312 | Commercial Laundry, Drycleaning, and Pressing Machine Manufacturing |
| Air-Conditioning and Warm Air Heating Equipment and Commercial/ Industrial Refrigeration Equipment | 3585 | 333415 | Air-Conditioning (except Motor Vehicle) and Warm Air Heating Equipment and Commercial/Industrial Refrigeration and Freezer Equipment (except Large Chillers and Heat Transfer Coils) Manufacturing |
| Service Industry Machinery, not elsewhere classified, e.g., commercial ovens, microwave ovens, fryers, dryers, dishwashers, and garbage disposals. | 3589 | 333319 Excluding SIC codes: 3559 3599 3699 | Other Commercial and Service Industry Machinery Manufacturing<br><br>Examples of exclusions include but not limited to: carnival and amusement park equipment, flight simulator equipment and automobile alignment and tire mounting equipment. |

Comment: Commenters (IV-D-4 and IV-F-1(A)) urged the EPA to modify the category definition by deleting those items traditionally regulated as miscellaneous metal parts and products (MMPP). At the least, the name of the source category should be changed to match the items considered to be large appliances in the proposal. The commenters suggested the following title: "Large and Miscellaneous Appliances."

Response: The Agency agrees that clarification of the source category is important. In the proposal we expanded the scope and applicability of the category. We have clarified definitions in the final rule to provide an immediate indication that the Large Appliances NESHAP has broader coverage than the NSPS definition. We believe any uncertainties about the products that we consider to be large appliances will be eliminated when the definitions are read by regulated sources. We have decided to retain the original category name.

Comment: Two commenters (IV-D-7 and IV-F-1(B), IV-D-16) expressed concern regarding the inclusion of certain heating, ventilating, air-conditioning, and refrigeration (HVAC/R) products in the Large Appliances NESHAP source category. These commenters felt that products such as heat exchanger coils, evaporative condensers, industrial refrigeration equipment, and chillers should either be regulated as a subcategory within the large appliance group or be considered not applicable to the large appliance category and possibly regulated under a different NESHAP category.

The commenters listed several factors that reflect the different nature of these industrial heating and cooling products in comparison to "white goods" appliances. They stated that these products are produced in much lower volumes than white goods, are often used outdoors, and have a longer expected life. Heat exchanger coils cannot be coated with powder coatings due to

their complex geometry and, oftentimes, their corrosion resistance requirements. Large commercial air conditioners such as chillers are much larger than household appliances, are assembled and manufactured differently in comparison to household appliances, have complex configurations, and are painted post-assembly; therefore, they cannot be painted on automated lines or be put through a baking oven or subjected to infrared (IR) or ultraviolet (UV) curing to dry the coating.

One of the commenters (IV-D-16) stated that the only option available to large HVAC/R manufacturers for coating these products is air-dried liquid coatings. Low-HAP formulations of these coatings that meet the proposed emission limit for new sources (0.022 kg HAP/liter of coating solids) are unavailable. They concluded that, if the new source limit is finalized at its proposed level, this would effectively prevent the future siting of new surface coating operations for large HVAC/R equipment anywhere in the United States.

Response: In general, the EPA agrees that some large HVAC/R products have differences from traditional white goods appliances. However, these differences are primarily related to the size of the equipment and their specific applications (i.e., typically industrial or commercial settings), rather than to the materials and processes used to apply surface coatings to them. After making site visits and analyzing additional data we have received, we maintain our belief that most HVAC/R equipment, even though it is classified under different industrial codes from white goods, have similar coating application processes, emission characteristics, and coating formulations. Therefore, most HVAC/R equipment should be considered to be large appliances for the purposes of this NESHAP.

Following proposal, commenter IV-D-16 clarified that this concern was specifically with large industrial and commercial chiller equipment, due to the several structural and

manufacturing differences that make the use of low-HAP coatings infeasible. Large commercial and industrial chillers are an integral part of cooling processes applicable to large application/commercial indoor climate control and heavy industrial applications not similar to operations of other appliances cited in this rule. A significant number of large chiller units are manufactured solely for industrial cooling processes. These units are custom-made. One chiller manufacturer applies coatings post-assembly at the plant; however, a significant number of manufacturers deliver these units without coatings. Because of their large size, mass, construction materials, and shape (10 to 30 feet long, 6 to 15 feet high and weighing up to 50 tons with exposed piping and heavy thick metal exteriors), coatings are applied by hand and often at the site of an installation and not at the factory. Large chillers require specialized heavy industrial equipment for manufacturing, testing, product delivery and installation, unlike other appliances in this category. EPA staff visited a large chiller manufacturing facility, where the differences involved in coating this equipment were observed.[1] Based on this visit and a review of the issues involved with coating this equipment, we have determined that large commercial and industrial chiller equipment is sufficiently different to be removed from the large appliances source category. This exclusion has been included in the definition of *large appliance product*.

Comment: One commenter (IV-D-7) stated that several requests have been submitted to the EPA in the past to have some HVAC/R products excluded from the large appliances category, which were accompanied by information and rationale. They felt

[1]See docket A-97-41,(item no. IV-B-01) for a description of this site visit.

that the EPA had failed to either address their concerns or provide its rationale for including all products covered under SIC code 3585 in the large appliances category. Another commenter (IV-D-12) asserted that the technology issues associated with the coating of heat transfer coils are completely unrelated to coating furnaces and air-conditioning systems and other products that are being considered under the large appliance definition.

Response: Commenters submitted information outlining the coating requirements for heat transfer coils. Heat transfer coils are installed in applications both subject and not subject to the large appliance NESHAP. Heat transfer coils have over 21,000 different designs and, when coated, must be coated on the entire surface, including inner surfaces. These coils are made of metal tubing and metallic fins with a fin density as great as 24 fins per inch with a complex surface profile. Adequate penetration and coverage is paramount to meet performance criteria for corrosion resistance and often to meet other Federal requirements regulating the food service industry. Coatings capable of meeting the application, flow, and coverage capabilities and performance requirements of heat transfer coils and of not congealing in the fins are not available in formulations that meet the emission limits of the Large Appliances NESHAP. After reviewing the submitted information, we have concluded that the surface coating of heat transfer coils has significant differences from the coating of other large appliance parts and products. The final rule excludes heat transfer coils (in the definition of *large appliance product*) from applicability under the Large Appliances NESHAP.

Comment: Three commenters (IV-D-5, IV-D-6, IV-D-9) stated that the manufacturing of motor vehicle air conditioner (AC) components should not be included in the Large Appliances NESHAP.

They stressed that these parts and products are designed to meet unique specifications as compared to many large appliances. For example, vehicle AC components must resist high temperatures and corrosion, and are subject to stringent safety standards that other large appliance products do not have to meet. In addition to these considerations, two automotive component manufacturers (IV-D-6, IV-D-9) pointed out that they operate under SIC code 3714 and were not included in the EPA's survey for this standard, and so were not included in the large appliance data base or in the determination of the MACT floor. Furthermore, they could find only one facility engaged in the coating of motor vehicle AC components (facility 72) in the data base.

Response: The EPA agrees with the commenters that motor vehicle AC parts and products should not be included in the large appliance category. We did not intend, in the original development of the proposed rule, to include automotive air-conditioning units. Therefore, the final rule clarifies (in the definition of *large appliance product*) that automotive air-conditioning parts and products will not be regulated by the Large Appliances NESHAP.

Comment: Another commenter (IV-D-1) asked for a clarification of the proposed definition of "coating", which reads: "*Coating* means a material applied to a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, sealants, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective oils, acids, bases, or any combination of these substances are not considered coatings for the purposes of this subpart." The commenter interpreted the definition to include porcelain enameling processes, and felt that it could also be construed to include processes such as plating.

Another commenter (IV-D-15) requested clarification on whether the following coating materials are to be used in the solids (compliance) calculation: (a) asphalt interior soundproofing, (b) powder coatings, (c) phosphate coatings, and (d) porcelain coatings. The commenter believed it was the intent of the rule to include these materials as coatings, but felt this should be made clear in the final rule.

Response: It was our intent for porcelain enamels to be regulated by this rule because we consider them to be "coatings" in the large appliance category. The EPA also considers asphalt interior soundproofing and powder coatings to be "coatings" for the purposes of the Large Appliances NESHAP. However, we did not intend to include phosphating and metal plating processes, the deposition of pure metal onto a substrate, as applicable processes. Thus, applying porcelain, powder, or asphaltic coatings is subject to the rule, and this is clarified in §63.4081(c)(4). Phosphating and metal plating are not subject to this subpart, and this is clarified in §63.4081(d)(5).

Comment: Another commenter (IV-D-10) expressed the view that phosphating, a surface preparation activity that also applies a corrosion resistant layer to the substrate, should qualify as a coating process and be included in the standard.

Response: None of the information we obtained in the early phases of this rule development indicated that the industry considered the solutions used to perform metal phosphating operations as "coatings." Thus, in our industry survey we did not list this operation as a potential affected operation, nor did any respondents include phosphating among their coating processes. As a result, phosphating was not considered in the calculation of total facility emissions (in units of mass of HAP/volume of coating solids) or in the MACT floor determination. Since no data from these processes are included in the emission

limit reflecting MACT, we do not believe it would be appropriate to include phosphating in the final rule for the purpose of compliance demonstrations.

Comment: One commenter (IV-D-10) requested clarification of facility maintenance operations that are excluded. He suggested the following definition:

"(3) This subpart does not apply to research or laboratory facilities, janitorial, building, and facility maintenance operations (including paint booths used for maintaining manufacturing equipment); or coating applications using hand-held non-refillable aerosol containers."

Response: The EPA does not intend to subject facility maintenance involving surface coating on tools, equipment and structures to the requirements of this subpart. In the final rule, EPA clearly defines facility maintenance. Furthermore, EPA and has clarified the intent to exclude from the subpart, facility maintenance (including surface coating) on the infrastructure of the facility or when necessary to maintain operational functions of the facility.

Comment: One commenter (IV-D-2) supported the proposed exemption for surface coating conducted for the purpose of repairing or maintaining large appliances used by a facility and not for commerce. In addition, the commenter stated that on-base military installations and areas, such as hobby shops and housing areas, also need a low-use exemption so that the coating of personally-owned appliances by military members (for example, prior to sale) would not be regulated even if the military installation as a whole were a major source of HAP. Often, members use hand-held nonrefillable aerosol containers. They also felt that it would be inappropriate to regulate a private facility that is a major HAP source due to other operations, but

performs an insignificant amount of large appliance surface coating.

The recommended low-use exemption would consist of a cutoff between 200 and 1,200 gallons per year. A facility must maintain usage records, but would not be considered an affected source if its usage is below the threshold.

Response: The primary intent of the rule is to limit HAP emissions from the coating of large appliance parts and products. However, in the proposal, the use of hand-held nonrefillable aerosol containers to coat large appliances was excluded from this subpart, even when the military installation is a major source. The case where individuals repair, refurbish, or recoat large appliances or other types of products at military hobby shops or base housing areas using hand-held nonrefillable aerosol containers, does not compare to the coating activities performed at facilities that apply coatings as a means of production and manufacture. The EPA has chosen to clarify the aforementioned exclusion to include coating activities at hobby shops rather than establish a low-use exemption. Section 63.4081(d)(4) of the final rule exempts research facilities, laboratories, facility maintenance operations and hobby shops from meeting the requirements of this subpart.

Comment: One commenter (IV-D-3) recommended that the EPA include provisions in the rule clarifying that the "once in, always in" MACT policy will not apply in certain cases involving qualifying sources. These sources would be those affected sources that subsequently (generally thought to imply the period after the compliance date) implement appropriate pollution prevention (P2) approaches that produce emission reductions at or beyond the levels required by the NESHAP and that make them "natural minor" sources. The commenter felt that such provisions

would provide sources with a powerful incentive to use P2 approaches that will produce superior emission reductions.

Response: The EPA, through discussions with STAPPA/ALAPCO, has developed a tentative solution that may require changes in the Part 63 General Provisions. We have been working to develop regulatory options that would allow qualifying sources to satisfy the MACT requirements through pollution prevention after the compliance date if they achieve emission reductions that would result in area source status. After concluding discussions of the options, we will develop the appropriate regulatory language and propose changes to the Part 63 General Provisions or existing rules.

3.2 Overlap With Other NESHAP Categories

Comment: Three commenters (IV-D-5, IV-D-6, IV-D-9) said that many facilities typically coat a range of products besides those listed as large appliances and these facilities should only be subject to one NESHAP rule (preferably the MMPP rule). They suggested that "opt-out" provisions for the Large Appliance NESHAP, and "opt-in" provisions for the MMPP NESHAP be included in these two rules. They also felt that the applicability of the proposed rule was unclear. Proposed §63.4082 appears to cover all of an affected source's coating operations, while proposed §63.4081 could be interpreted as stating that only the surface coating, associated surface preparation, associated equipment cleaning, and other affiliated operations related to large appliances would be covered by these standards.

Another commenter (IV-D-4) desired a level of compliance flexibility for facilities affected by regulatory overlap among the surface coating NESHAP for Large Appliances, Miscellaneous Metal Parts and Products, and Plastic Parts and Products (PPP). This flexible approach would allow facilities to opt specific coating operations or product lines, which are collateral to

large appliance coating operations, out of the Large Appliances NESHAP and into either the MMPP or the PPP rule. The commenter suggested that this alternative apply to operations that have been categorized under NSPS as either miscellaneous metal or plastic parts, or apply to specific facilities that do not reach a certain level of large appliance coating operations.

Response: The proposed rule specified that one of the items that comprises the affected source is "all coating operations as defined in §63.4181." The proposed definition for *coating operation* in §63.4181 was not specific in restricting the affected activities (i.e., surface preparation, cleaning, and coating application) to large appliances. We have revised this definition in the final rule to clarify that only those coating operations associated with coating large appliance parts or products are part of the affected source.

The EPA agrees that, in certain circumstances, it may be an excessive recordkeeping and reporting burden to a facility to comply separately with different applicable NESHAP, when those NESHAP cover similar emitting operations. We have developed an approach in the final rule that can be used by facilities that perform operations subject to more than one surface coating NESHAP (for the Large Appliance category, the primary overlapping NESHAP are expected to be those for MMPP and PPP).

First, a facility could elect to comply separately with the requirements of each applicable NESHAP for each regulated operation. As an alternative, you may choose to be subject to the requirements of the most stringent of the subparts for the entire surface coating facility. The test for stringency is a demonstration that your facility-wide HAP emissions from all surface coating operations will be less than or equal to the emissions achieved by complying separately with all applicable subparts.

As an example, consider a facility that coats clothes washers and dryers. In one part of the facility, the company also manufactures and coats hinges, some of which are used in the appliances. The coating of the hinges would normally be regulated under the MMPP NESHAP, and the washers and dryers coating under the Large Appliances NESHAP. This facility will have the option of considering these operations separately and complying with each applicable NESHAP, or treating the coating operation for the hinges as though it were a large appliance coating operation and including this operation under the compliance requirements for the more stringent Large Appliances NESHAP. Note that if *all* of the hinges produced at this facility were intended for use in large appliances, they would be considered a large appliance part and would thus be subject to the Large Appliances NESHAP. This issue is also addressed in the next two comments and responses.

Comment: One commenter (IV-D-10) commented on proposed §63.4081(a)(1)(i), which reads: "The surface coating of small items such as metal or plastic handles, hinges, or fasteners that have a wider use beyond large appliances are not subject to this subpart if the surface coating occurs at a facility that does not apply coatings to other large appliance items." They felt that this provision could be interpreted to mean that a plant making, for instance, appliance motors would not be excluded unless: (1) it did not coat any other large appliance items, and (2) the appliance motor was also designed to work in a non-appliance application. They said that this reading would not be consistent with common manufacturing practices, and would result in an overly broad application of the standard.

Motors or plastic handles used on large appliances typically are manufactured in a plant and on a coating line that coats a wide range of products. Only the MMPP or PPP MACT rule should

cover those coating operations. To achieve that result the EPA should change the proposed provision to make clear that it excludes operations that coat the "type" of items that have a wider use beyond large appliances, even if the specific item is designed to work only on a large appliance.

This commenter also felt that the language needs to be clarified to ensure that a plant that makes more than one large appliance item, but otherwise fits within the exemption, is excluded from the rule. For example, a facility may coat both handles and hinges. Under the proposed language, because two large appliance items are coated at the plant, it would apparently no longer qualify for the exemption.

The commenter suggested the following revised rule language for §63.4081(a)(1)(i):

"(i) The surface coating of the type of items that have a wider use beyond large appliances, such as metal or plastic handles, hinges, motors, compressors, or fasteners are not subject to this subpart if the surface coating occurs at a facility that does not apply coatings to large appliances."

Response: As discussed in the previous response, facilities potentially subject to more than one coating NESHAP can elect to comply either with each applicable MACT standard individually or with only one of the MACT standards if that standard is the most stringent among the applicable rules.

The EPA acknowledges that there are many facilities that coat miscellaneous items intended for various applications which may include large appliances. We agree with the commenter that such operations should not be subject to coverage by the Large Appliances NESHAP. We have made clarifying changes in §63.4081(d)(1) of the final rule, which reads as follows: "The surface coating of large appliance parts, such as metal or plastic handles, hinges, or fasteners, that have a wider use beyond large appliances is not subject to this subpart." Other

items not specifically mentioned in the definition, such as motors and compressors, may fall under this exclusion. Facilities that apply coatings to parts that have uses beyond large appliances will be subject to other appropriate NESHAP. However, as noted in the previous response, if a facility is applying coatings to both large appliance parts and these wider use parts, the final rule allows the facility to "opt-into" the large appliance category for all of its coating operations.

Comment: This commenter (IV-D-10) further felt that the intent of the rule to exclude wider use parts should be explained in the preamble or background information for the final rule through illustrative examples. The following language was suggested:

"1. A refrigerator manufacturing facility coats the interior and exterior of the refrigerators and also makes and coats the metal handles for the refrigerators. Because the coating of the handles occurs at a facility that also coats large appliances (refrigerators), the coating of the handles is subject to the Large Appliance Surface Coating standard. It is not subject to the Miscellaneous Metal Parts and Products standard.

2. A supplier to an appliance manufacturing facility makes motors for a variety of applications. One type of motor is used only in refrigerators and is supplied to a particular refrigerator manufacturer. The motor is coated prior to shipping to the appliance manufacturing facility. The coating of the motor at the supplier's facility is not subject to the Large Appliance Surface Coating standard because the supplier facility does not coat large appliances, and motors are a type of item used in applications beyond large appliances.

3. The supplier in example 2 also makes hinges for refrigerator doors. The coating of the hinges at the supplier's facility is not subject to the Large Appliance Surface Coating

standard because it does not coat large appliances and hinges are a type of item used in applications beyond large appliances."

Response: As indicated above, all surface coating of parts with wider-use beyond large appliances applicability is excluded from the final rule, even if it occurs at a facility that coats large appliance parts or products. In practical terms, we believe that a facility that manufactures appliances will choose to comply facility-wide for all of its coatings with the Large Appliances NESHAP. The commenter is correct in presuming that a parts supplier performing coating of wider-use parts will not fall under the large appliances rule.

3.3 Compliance Issues

Comment: Two commenters (IV-D-1, IV-D-10) expressed support for the proposed 3-year compliance period outlined in §63.4083(b). One of them (IV-D-10) stated that the time required to evaluate compliance options, develop designs, order appropriate equipment, obtain State and local permits, install the controls or convert to lower HAP coatings, and test the process changes will consume the full 3-year period and thus it is critical for the EPA to retain this provision in the final rule.

Response: The EPA has retained the 3-year compliance period in the final rule. This is the maximum period allowed by the Act and we agree that this period will be necessary to allow most existing sources the time to achieve compliance.

Comment: Three commenters (IV-D-1, IV-D-4, IV-D-10) offered opinions on the three compliance options described in proposed §63.4091. These compliance options, in order of presentation, are: Option 1 - Compliant material option, Option 2 - Emission rate without add-on controls option, and Option 3 - Emission rate with add-on controls option.

One of the commenters (IV-D-10) felt that Option 1 should not require coating operations that use only powder paint to perform the calculations, monthly compliance determinations, and recordkeeping, if their cleaning materials do not contain any HAP. This commenter provided suggested language to be added to §63.4141:

"(f) Coating operations that utilize this compliance option and utilize only powder paint for coating materials, and also do not use cleaners that contain HAPs, shall not be subject to the provisions of 63.4110(b)(8)(i), 63.4120(d)(2) and (3), 63.4130(c)(1), and 63.4141(a) through (e)."

They also suggested the addition of the following paragraph to §63.4142:

"(e) For each compliance period, a coating operation demonstrates continuous compliance if it meets the provisions of 63.4141(f). For each such operation, the semiannual report must identify the coating operation and include a statement that only powder paints were utilized as a coating material and that cleaning materials did not contain any HAPs. The statement shall also identify the compliance periods to which the statement applies."

Response: The EPA agrees that calculations of coating organic HAP content are unnecessary for powder coatings that contain no organic HAP. The commenter suggested relevant portions of the proposed requirements that he believed should not be applicable to these powder coating operations. We have reviewed the proposed calculations, compliance determinations, and recordkeeping requirements for the compliant material option and believe the commenter identified a need to clarify the rule language. The proposed language would have required an affected source choosing the compliant material option and using only powder coatings and non-HAP cleaning materials to determine the mass fraction of organic HAP, the volume fraction of solids, and

the density for each coating, and then to determine the ratio of organic HAP to coating solids. Records and certain reports would have had to include such calculations. We did not intend to require this unnecessary calculation for non-HAP coatings at proposal. Clearly, if a coating contains no organic HAP, it is not useful to record and report such calculations since the result is obviously zero kg organic HAP per liter of coating solids. Therefore, we have added a provision in §63.4141(a) and (d) of the final rule specifying that if the mass fraction of organic HAP in a coating is zero, as determined according to §63.4141(a) (through test results or manufacturer's formulation data), then the source is not required to determine the volume fraction of coating solids and density, or to calculate the organic HAP content. This new provision applies to all types of coatings that contain no organic HAP, not just powder coatings. For such a coating, §63.4141(d) of the final rule specifies that the organic HAP content equals zero and no calculation is required. The following notification, reporting, and recordkeeping sections of the rule were also revised to fully incorporate this provision: §63.4110(b)(8) and (b)(8)(i); 63.4120(d)(2); and 63.4130(c), (c)(1), (f), and (g). We believe that these changes are responsive to the commenter's concerns and that they retain only the requirements that are essential for compliance and enforcement purposes.

Comment: Another commenter (IV-D-1) suggested that the rule could be simplified by combining Option 1, Compliant material option, and Option 2, Emission rate without add-on controls option, using a generic formula. This commenter also took exception to the restriction on using different compliance options at the same time on the same coating operation. They felt that it could be more economically efficient for a source to

use a combination of options on one line rather than investing in all lines to meet the emission limit.

Response: The three proposed compliance options appeared to create some confusion among commenters on the proposed rule. The three options were intended to cover three distinct scenarios and to be applied separately from one another. Option 1 provides a simplified approach for those operations where each individual coating meets the applicable emission limit, and all thinners and cleaning materials are HAP-free. Option 2 would be used if one or more of the coatings were above the limit, or some of the thinners or cleaners contained HAP. The commenter did not identify any operational scenario where a combination of these options would apply at the same time, or how such a combined option would operate. Therefore, we have retained these two options as separate compliance choices.

Options 1 and 2 cannot logically both be used on one coating operation at the same time. If all coatings meet the limit and all thinners and cleaners are HAP-free, then Option 1 would be used. Otherwise, Option 2 applies (or Option 3 if an add-on control device is in use).

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Comment: A third commenter (IV-D-4 and IV-F-1(A)) found the three compliance options confusing and the compliance calculations complex. The commenter suggested that the EPA combine Option 2, Emission rate without add-on controls option, and Option 3, Emission rate with add-on controls option, and modify the averaging scheme offered by the rule. The commenter also felt that combining “unrelated” operations (cleaning, thinning, and coating) into a “one number” emission limit ignores the differences in those operations (i.e., thinners and cleaners do not contain any solids). The commenter stated that this format is contrary to common sense and to the intent of section 112 of the Clean Air Act. The commenter recommended a fourth

compliance option that would allow sources to average across coating lines and not include thinning and cleaning operations in the calculations. They stated that enforcement would be simplified under such an option.

Response: As discussed above, the three proposed compliance options are intended to cover different situations and to be applied separately.

The "one number" limits do not ignore differences in emission sources, but recognize that coatings, thinners, and cleaning materials all have the potential to contribute to the HAP emissions from a coating operation. Also, these limits were developed by considering the total HAP emissions from all three types of materials. We believe that this format makes sense and is simple because it consolidates all emissions from an operation into a single calculation. Option 2 provides enhanced flexibility because a combination of compliant and noncompliant coatings, thinners, and cleaners may be used as long as the overall average emission rate meets the standard.

Comment: One commenter (IV-D-4) endorsed the use of formulation data to determine and certify compliance with the requirements of the Large Appliances NESHAP. The commenter pointed out that the EPA had stated in a January 7, 1998 letter to the National Paint and Coatings Association that data demonstrating a consistent and quantitatively known relationship to EPA test methods could come from a variety of sources. The commenter urged the EPA to clearly state (as in the proposed Metal Coil Coating NESHAP, §63.5160(b)(3), 65 FR 44615, 7/18/00) that formulation data may be used to demonstrate compliance with the emission limits.

Response: The EPA agrees that formulation data from manufacturers are useful and often the only information readily available to determine the composition of coating and cleaning

materials. The proposed rule allowed the use of information provided by coating material suppliers or manufacturers in the sections addressing notifications [§63.4110(b)(7)], reports [§63.4120(d)(2), (e)(2), and (g)(2)], and records [§63.4130(b)]. In addition, proposed §63.4141(a)(4) allowed reliance on manufacturer's formulation data in determining the mass fraction of organic HAP in coatings, thinners, and cleaning materials. These allowances are retained in the final rule. It should be noted that, if there is disagreement between such information and the results of the test methods specified in the rule (i.e., Method 24, 311, or other referenced methods), the test results will take precedence (see §63.4141). This is consistent with the provisions in other coating rules.

Comment: One commenter (IV-D-1) suggested that facilities should be allowed to negotiate with the regulatory authority to gain some flexibility concerning their specific compliance period. Some facilities may not keep records on the basis of the calendar month, and such flexibility would help to reduce some of the recordkeeping burden by utilizing existing accounting mechanisms at these facilities.

The commenter felt that the proposed rule was unclear as to whether compliance would be determined on a month-to-month basis, or if a 12-month rolling average would be required.

Response: The proposed rule stated that the initial compliance period begins on the applicable compliance date specified (3 years after the effective date for existing sources) and ends on the last day of the first full calendar month after the compliance date. Also, as stated in the proposed rule, each calendar month following the initial compliance period was intended to be a compliance period. The intent of these provisions was to have compliance demonstrated on a month-to-month basis, and not over the course of an entire year.

To accommodate the concern of this commenter, however, we have included in the final rule a definition for "month", which broadens the meaning beyond a calendar month for cases where this may expedite a facility's compliance reporting. The definition in the final rule is: "*Month* means a calendar month or a pre-specified period of 28 to 35 days, to allow for flexibility in recordkeeping when data are based on a business accounting period."

Comment: One commenter (IV-D-15) felt that a monthly compliance requirement could lead to false violations due to system maintenance schedules. They believed that off-day (weekend) or other periodic cleaning schedules could impact some monthly period reporting numbers. Also, emergency conditions (line failures, spills) could cause reporting excesses. They asked how such emergency emissions would be handled. To accommodate these factors, they suggested that compliance reporting be a 12-month rolling calculation.

Response: The commenter should note that facility maintenance operations were excluded from the proposed rule. This exclusion is meant to apply to cleaning and surface coating activities that are not associated with a coating operation. Cleaning emissions resulting from the periodic cleaning of coating equipment are subject to the rule as are any and all organic HAP emissions from coating operations, even if they are caused by emergency conditions.

The coatings, thinners, and cleaning materials involved in a spill or similar incident are not considered to be materials "used" in a coating operation if the source accounts for its materials at the coating operation level. Therefore, spilled materials would not be recorded as material used or included in the emission calculations a facility performs as part of its compliance demonstration. However, for sources using purchase

records at the facility level to track material used, a spill could potentially lead to a violation of the emission limit. Facilities that use such purchase records may deduct the amount of a spill from their usage totals if the amount of the spill can be quantified and documented.

In the absence of any information that large appliance manufacturing has significant seasonal variations or other reasons that would require a long compliance period such as the 12 months suggested by the commenter, we concluded that facilities would find it possible to comply with the standards on a monthly basis. No data were submitted, either in the industry survey responses or in comments received from stakeholders, to contradict this conclusion. Therefore, each month is a compliance period in the final rule.

3.4 Cost Analysis

Comment: Several commenters (IV-D-1, IV-D-4 and IV-F-1(A), IV-D-7, IV-D-15) took issue with the EPA's cost analysis included in the background information document for the proposed standards (BID Volume I or proposal BID). They said that the EPA's assumption that there would be no compliance costs in reformulating to non-HAP coatings or in changing to non-HAP thinning and cleaning solvents was in error. One commenter (IV-D-15) stated that even the most minute material change is extremely time-consuming and costly. Another commenter (IV-D-1) felt that solvent costs would double in order to utilize a non-HAP solvent with the existing formulations. There will also be internal costs due to the life cycle testing and approval processes that must be conducted within the company, as well as costs incurred by the coating supplier.

Two other commenters (IV-D-7 and IV-F-1(A)) pointed out that the EPA did not factor any costs for add-on control equipment into its analysis, and that the times estimated for

recordkeeping, reporting, and training were very low. These commenters concluded that the cost analysis is weak and needs to be revised. Finally, one commenter (IV-D-15) expressed disappointment that the EPA chose not to submit its economic assessment to the Office of Management and Budget (OMB) for review.

Response: As we explained in Section 7.1 of the proposal BID, our investigation of the costs for a facility to convert to reformulated coatings showed that such costs can be highly variable. While many facilities may encounter costs under the rule that are beyond their usual expenditures for new coating evaluations, there are often compensating increases in efficiency or reduced costs due to lower coating waste production. We made several contacts with industry to identify the cost elements involved in switching coatings and to obtain some representative cost figures. These queries produced little useful data. One reason was that cost data are not readily available in terms of coating HAP content. The data that were obtained showed higher, lower, and unchanged costs for high-solids versus low-solids (higher HAP) coatings. Therefore, due to the many site-specific variables and the lack of a consistent trend in the cost information, we made the assumption that there would be no net change in costs for the population of facilities making changes to comply with the NESHAP. Of course, individual facilities may encounter up-front costs such as purchase of new application equipment or modifications to existing equipment.

For thinners and cleaning materials, we did assume that the non-HAP solvents used as replacements for HAP solvents would cost twice as much as the HAP solvents, on an overall basis.

In our analysis we made the assumption that, due to the availability of compliant coatings and the higher costs of control equipment relative to those coatings, no large appliance facility would be required to install add-on control equipment to

comply with these standards. Therefore, we did not attribute any cost impacts for new add-on controls in the analysis. We identified only 5 facilities (about 2 percent) out of the 222 facilities in our survey that are currently using add-on control equipment for their coating operations. These facilities would incur costs for monitoring, recordkeeping, and reporting, and these costs were accounted for in the analysis.

None of the commenters submitted any specific cost data with their comments for the Agency to consider. Thus, the commenters gave us no specific recommendations on how the cost estimates should be changed. The economic impact analysis was not submitted to OMB because, as the preamble states, none of the criteria in Executive Order 12866 for a "significant regulatory action" were satisfied. However, the EPA's cost estimates (OMB Form 83-I) for information collection (monitoring, recordkeeping, and reporting) under the proposed standards were submitted to OMB for review and approval in accordance with the Paperwork Reduction Act of 1995 (see proposal preamble, 65 FR 81148).

3.5 Reporting Requirements

Comment: One commenter (IV-D-1) assumed that the NESHAP's semiannual compliance reports would be equivalent to the semiannual monitoring reports that are required to be submitted by a title V permit holder. The commenter encouraged the EPA to adopt similar formats for the title V and NESHAP reports so the States operating title V programs can use the existing compliance forms for the NESHAP or have the title V information deemed equivalent to the information required by the large appliance rule. They also felt that the NESHAP should be written such that the compliance and reporting dates coincide with the dates written into a title V permit.

Response: The coordination of the various compliance reports that affected sources may be required to submit was

addressed in the proposed rule. The rule allows facilities to submit the NESHAP compliance reports on the same schedule as the title V permit semiannual monitoring report (under 40 CFR part 70 or 71) if the title V schedule has been established before the NESHAP becomes effective. Also, the deviations reported in the NESHAP compliance report do not also have to be reported in the title V monitoring report. However, submission of a compliance report would not otherwise affect any obligation to report deviations from permit requirements to the permit authority.

Comment: Another commenter (IV-D-15) referred to a preamble passage (p. 81136), which says that "overlapping reporting, recordkeeping, and monitoring requirements may be resolved through your Title V permit." They asked whether the States would have "the ultimate primacy on MACT reporting, similar to what has been done with other air programs."

Response: The EPA may delegate the administration of this and other MACT standards to State, local, or tribal agencies. With that delegation, these agencies are directed to administer the program in a manner that is flexible and workable yet no less stringent than prescribed by Federal guidelines. These agencies would then have primacy in most aspects of the NESHAP implementation process. The final rule indicates authorities retained by the U.S. EPA (in §63.4180(c)), including approval of major alternatives to work practice standards, test methods, monitoring, and recordkeeping and reporting requirements.

Comment: One commenter (IV-D-1) noted that the proposed rule required each compliance report to list the compliance option or options used on each coating operation during the corresponding reporting period. The commenter believed that the compliance option should be reported only if the option was changed during the reporting period.

Response: Identification of the compliance option or options used for a coating operation in each compliance report should not require any extra effort by the source if the option does not change from one monthly period to another, because these reports are most likely going to be generated and recorded in some type of computer software. In fact, deleting this information from the report would seem to be a more burdensome alternative. The EPA prefers that each report contain all of the essential information about the source's compliance efforts so that there is less chance for misunderstanding concerning the activities at the facility. Therefore, we have retained the proposed requirement in the final rule.

3.6 Definition of New Source

Comment: Two commenters (IV-D-1, IV-D-15) believed that clarification was needed on whether a new coating line constructed at an existing source would be required to meet the existing source emission limit or the more stringent limit for new sources. Another commenter (IV-D-4) supported the broad definition of affected source contained in proposed §63.4082(b), as the collection of all the affected operations at a major source large appliance facility. However, they requested clarification on what constitutes the affected source through a new definition that could be added to the final rule. This commenter suggested that language similar to that used in the proposal preamble be added to the rule itself, listing the activities that would and would not trigger NSPS and NSR requirements. As an alternative, the commenter requested that the rule clearly direct regulators to interpret the final rule based on the definition contained in 40 CFR 63.2 (General Provisions, Definitions).

Response: As indicated in the proposed rule, a new affected source is a source that is constructed after December 22, 2000

and is a "completely new" large appliance surface coating facility where no such facility had previously existed. Therefore, the commenters are correct in their interpretation that a new coating line at an existing affected source would be required to meet the emission limit for existing sources and not the limit for new sources.

The proposed emission limit for new sources is applicable to new *and reconstructed* sources. A source that is reconstructed, according to the definition of "Reconstruction" in §63.2 of the General Provisions, is considered essentially "new" and thus must meet the limit for new sources. The definition for "Reconstruction" is: "*Reconstruction* means the replacement of components of an affected or a previously unaffected stationary source to such an extent that:

(1) The fixed capital cost of the new components exceeds 50 percent of the fixed capital cost that would be required to construct a comparable new source; and

(2) It is technologically and economically feasible for the reconstructed source to meet the relevant standard(s) established by the Administrator (or a State) pursuant to section 112 of the Act. Upon reconstruction, an affected source, or a stationary source that becomes an affected source, is subject to relevant standards for new sources, including compliance dates, irrespective of any change in emissions of hazardous air pollutants from that source." This means that, while adding a new coating line would not trigger reconstruction, it is possible to do so by replacing an old coating line with a new one (especially for smaller sources) and in those cases the more stringent new source limit would have to be met *by the entire affected source*.

This commenter has requested that the final rule identify a facility's activities that would make it a new source, or include guidance for regulators on interpreting the rule. As discussed

in Section 2 of this document, we have made several changes to the wording of the rule to clarify its intent and to ensure that regulators understand its implementation. The Agency is also creating implementation materials such as applicability flow charts and checklists to help agencies and affected sources in properly understanding the application of the rule.

Comment: A fourth commenter (IV-D-10) requested that the EPA clarify the definition of a new affected source as one that is constructed after December 22, 2000, and that is of a "completely new large appliance surface coating facility where previously no large appliance surface coating facility had existed." The commenter provided an example as follows to illustrate the application of this approach, which they suggested the EPA add to the preamble or background information for the promulgated rule:

"A facility with four existing coating lines (1-4) intends to make a capital investment in Line 1. The replacement cost for one line is $3 million and for all four lines is $12 million. The proposed project would involve an expenditure of more than 50 percent of the replacement cost for Line 1. Because the investment in Line 1 is less than 50 percent of the $12 million replacement cost for the large appliance surface coating facility (i.e., the "affected source" is all four lines), the facility will not trigger new source MACT but must instead comply with existing source MACT on all four lines."

Response: The EPA agrees that the example provided by the commenter accurately reflects the intent of our definition of new affected source.

3.7 Format/Stringency of Standards

Comment: Two commenters (IV-D-4 and IV-F-1(A), IV-D-11) expressed concern over the units selected for the proposed

emission limits [kilograms (pounds) of HAP per liter (gallon) of coating solids used]. One of them (IV-D-4 and IV-F-1(A)) referred to the EPA's "equity" argument, that the specific gravity of coatings tends to vary widely with the degree and type of pigmenting employed and, thus, basing the limit on the mass of solids used would effectively create a range of limits dependent on the specific coating type being used. This commenter asked why the EPA then used an "arbitrary" default coating density to convert coatings in the data base from mass to volume units. They felt that the use of a weight-to-weight unit would have eliminated the EPA's need to use this default value in its "convoluted" calculation process. Such a format would be easier to understand, to calculate, and to verify.

Response: As explained in the proposal preamble (65 FR 81144), the unit of *mass of HAP per volume of coating solids used* was selected to normalize the assessment of organic HAP emissions across all affected sources. This unit was meant to relate directly to production rates, on the assumption that average dry coating film thicknesses are fairly constant across appliance product types. We believe that the use of *mass* of solids in the denominator of the standard would penalize operations using lower-density pigment coatings (i.e., a lower denominator in the emission calculation would lead to a higher apparent emissions value), while providing an advantage to users of higher-density coatings. An emission limit based on *volume* of coating solids used was thus deemed to be more equitable.

To convert the facility coating data to units of volume solids, we used actual coating density values where they were available. Where they were not available (density data were not provided for some of the coatings in the survey responses), we used the averages of all the density values available for similar types of materials. Therefore, these density values were not

arbitrary, as claimed by the commenter, but were based on actual large appliance coating data.

Comment: One commenter (IV-D-11) pointed out that existing rules that will overlap with this rule typically specify VOC limitations as a surrogate for organic HAP. They felt that a reliance on both VOC and HAP limits would complicate the compliance effort due to the extreme effort involved in trying to obtain HAP information for thousands of materials (which the available MSDS typically do not contain). They concluded that a rule containing this type of HAP determination scheme and its high costs will far exceed the $100 million/yr cost threshold to the industry and will require a full GAO evaluation.

Response: The proposed rule allowed sources to use EPA Method 24 to determine the mass fraction of nonaqueous volatile matter in coatings and to use that value as a substitute for mass fraction of organic HAP. Therefore, owners and operators wishing to rely on this surrogate approach have been provided with such an option.

Comment: The same commenter (IV-D-11) also expressed support for the "Compliant Material" option as the most direct and least costly approach, but stated that an averaging scheme should also be included even with its increased recordkeeping burden.

Response: The EPA agrees that the "Compliant Material" option (Option 1) is the preferred approach for coating operations in which each affected material satisfies the standard. Recordkeeping is simple and consists of calculations of the organic HAP content for each coating and documentation that the thinners and cleaners used in the operation have no HAP content. Options 2 and 3 represent averaging schemes that can be

used when some individual coatings or other materials don't meet the requirements of the standard.

Comment: One commenter (IV-D-10) noted that the MACT floor calculation might change after the data base has been reviewed and companies have a chance to provide corrected information. They believed that even if the floor is revised to be less stringent, the MACT standard should continue to be set at the floor level. The costs of installing controls or reformulating coatings would be excessive if a standard more stringent than the floor were imposed. Also, the EPA should revise its cost analysis to reflect actual costs if a standard above the floor is selected for the final rule. They estimated that reformulating cleaning materials to a non-HAP solvent for one small portion of one plant would cost approximately $600/ton per year for the increased material costs alone, not including the cost of any accompanying equipment changes.

Response: The EPA did not receive any corrected facility information after proposal, so no corrections were made to the data base. We did review the original survey responses to verify that the data were entered correctly, and we also confirmed the accuracy of our calculations of total facility emissions. These reviews did not change the identity of the MACT floor facilities or their overall HAP emission rates.

Since no new information was received to indicate that the standard should be set above the floor, the final emission limits for existing and new sources are set at the floor as they were in the proposal.

Comment: Another commenter (IV-D-8) advocated that the EPA set a performance-based rule based on available cost-effective controls and techniques and allow the market to respond. They saw no reason for the EPA to reject a beyond-the-floor limit that

can be achieved by capture and control technologies or by low HAP/VOC or powder coating techniques. Further, they felt that the EPA had underestimated the incremental HAP reductions that could be achieved by available technologies that are capable of beyond-the-floor performance.

Response: The Large Appliances NESHAP does include performance-based emission limits which sources can achieve in a variety of ways. As Section 5.5 of the proposal BID discusses, we conducted a beyond-the-floor analysis to determine the impacts of a more stringent emission limit for existing and new sources. This analysis indicated unacceptably high incremental costs in relation to HAP emission reductions that would result from going beyond the floor (i.e., conversion from liquid to powder coating lines or use of add-on controls). Another consideration in determining whether to impose the extremely low emission limits achievable with powder coatings (essentially zero emissions) is that many product types, such as very large or heat-sensitive items, cannot be coated with powder coatings. Thus, powder coating technology is not available to all of the sources in the category. As a result, we determined that the proposed and final emission limits should be set at the MACT floor level.

Comment: The same commenter (IV-D-8) believed that the proposed rule would not affect a significant amount of HAP emissions (1,448 tpy, or 55 percent, of major source emissions would not be affected). They urged the EPA to optimize the current NESHAP rulemaking process to more fully reduce all HAP emissions and promote the timely protection of public health.

Response: The EPA believes that the 45 percent reduction in HAP emissions projected for this NESHAP is significant, and therefore this rule promotes the protection of public health. This reduction reflects MACT levels of control which we

determined in accordance with section 112(d) of the Clean Air Act.

Comment: The same commenter (IV-D-8) felt that the proposed emission limits provide little if any incentive for existing sources to apply add-on control devices to their coating operations. Thus, the proposal misses the opportunity to control at least an additional 250 tons per year of HAP emissions. They contended that low-HAP/VOC coatings alone fall short of the cost-effective reductions that can be achieved.

Response: The proposed rule included compliance options for facilities using compliant materials as well as for those who elect to apply add-on controls in order to meet the standard. However, as we stated in the proposal preamble (65 FR 81145), the Agency has a desire in this rulemaking to encourage the use of pollution prevention (P2) technologies such as lower-emitting coating technologies. Add-on controls may be used in a limited number of cases where compliant materials that can fulfill the needs of the coater are unavailable.

Our emphasis on P2 has its basis in the Pollution Prevention Act of 1990 (PPA). In Section 6602(a), the PPA says, in part: "(a) Findings. - The Congress finds that:

...

(2) There are significant opportunities for industry to reduce or prevent pollution at the source through cost-effective changes in production, operation, and raw materials use. Such changes offer industry substantial savings in reduced raw material, pollution control, and liability costs as well as help protect the environment and reduce risks to worker health and safety.

(3) The opportunities for source reduction are often not realized because existing rules, and the industrial resources they require for compliance, focus upon treatment and disposal,

rather than source reduction; existing rules do not emphasize multi-media management of pollution; and businesses need information and technical assistance to overcome institutional barriers to the adoption of source reduction practices.

(4) Source reduction is fundamentally different and more desirable than waste management and pollution control. The Environmental Protection Agency needs to address the historical lack of attention to source reduction.

...

(b) Policy. - The Congress hereby declares it to be the national policy of the United States that pollution should be prevented or reduced at the source whenever feasible; ..."

It is in this context that we try to identify opportunities for source reduction while recognizing that in some instances it may be necessary or desirable for a source to apply emission control equipment.

3.8 Determination of MACT Floor

Comment: One commenter (IV-D-10) believed that the EPA may have committed errors in calculating the MACT floors by including minor sources in the determination. It was their understanding that only major sources are to be included in the floor calculations.

Response: Section 5.2 of the proposal BID describes the approach we took in determining the MACT floor for existing sources. The BID notes that the data base of large appliance facilities resulting from responses to our survey contains 95 potential major source facilities, 21 of which were identified as "synthetic minor sources." These 95 "major sources" were made up of the following groups: (1) those facilities that listed "major source" or "synthetic minor source" as their title V status in their response, (2) those facilities that reported their HAP emissions under "maximum design capacity" as greater than 9.1

Mg/yr (10 tpy), and (3) other facilities that we judged to have the capacity to increase their HAP emissions to greater than 9.1 Mg/yr, based on their reported emissions.

In the Clean Air Act, Section 112(a) defines a "major source" as: "any stationary source or group of stationary sources located within a contiguous area and under common control that emits *or has the potential to emit considering controls*, in the aggregate, 10 tons per year or more of any hazardous air pollutant or 25 tons per year or more of any combination of hazardous air pollutants." (Emphasis added.)

The EPA has taken the position that it is within our discretion to include in the floor determination sources that have some type of control equipment or other process change, even if they ultimately are able to avoid being subject to the NESHAP when promulgated because they can limit their potential to emit. We are defining such "synthetic minor sources" as those potentially major sources which, because of the presence of some emission control devices, procedures, or materials (enforceable limitations), actually emit less than the 10/25 tpy level of HAP emissions.

Secondly, we believe that the Act's phrases "best controlled similar source" (new sources) and "best performing" sources (existing sources) in Section 112(d) suggest that we look at major sources with controls in place that may make them synthetic minor sources. To do otherwise would exclude very large HAP emitting sources with the best controls from the MACT floor determination.

We do, however, agree with the commenter that "true minor sources" should not be used in determining the floor for a major source category, and we did not knowingly include such sources in our large appliance floor analysis. For our purposes here, we are defining "true minor sources" as those sources whose potential to emit is less than 10/25 tons per year of hazardous

air pollutants, either because their processes are inherently low emitting or because they are small production facilities with resulting small HAP emissions even without controls.

Comment: One commenter (IV-D-15) asserted that the MACT floor should be set at the emission limitation achieved by the source at the 12 percent point, not the average of the floor facility emissions. This commenter pointed out that neither of their two facilities that are in the top 12 percent group can currently meet the proposed limits without radical changes.

Response: Section 112(d) of the Clean Air Act sets forth certain minimum levels of control for standards established pursuant to that section. These minimum criteria are what we call the "floor." The maximum achievable control technology (MACT) floor for existing sources in a category or subcategory is given as "the average emission limitation achieved by the best performing 12 percent of the existing sources ... for categories and subcategories with more than 30 sources." (Emphasis added.) If a category or subcategory has fewer than 30 sources, the floor is "the average emission limitation achieved by the best performing 5 sources." (Emphasis added.) Thus, the CAA clearly establishes that the MACT floor must be based on an average of the best performing (in terms of emissions reduction) sources. In developing floors, we have primarily used the arithmetic average (mean) or the median of the top sources as the appropriate measure to use in calculating the MACT floor.

Selecting the average of the top 12 percent means, for a group of sources with a fairly even performance distribution, that roughly one-half of the sources making up the 12 percent will not achieve the average. In Table 5-1 of the proposal BID, the 12 (out of 95) facilities making up the floor group are shown as shaded rows. Of these 12, 7 facilities emit less than the floor average of 0.134 kg HAP/liter coating solids, while 5 have

higher emissions than the average. The highest emitting facility in this group will have to reduce its emissions by about 45 percent to achieve the floor. Several of the potential major source facilities shown in the rest of the table will need to cut their overall HAP emissions by 90 percent or more to achieve the standard. Thus, for many of the affected large appliance facilities significant changes in their coating operations will be necessary.

Comment: One commenter (IV-D-8) quoted the EPA's statement in the proposal that "... four of the most recently constructed facilities in the data base are using powder coatings extensively and have HAP emission levels below the MACT level for new sources." They asked why these emission levels were not considered to be the best available for determining the MACT limit for new sources. Since the EPA has stated that powder coatings are used by most new sources, and are more durable and cost-effective, the MACT limit for new sources should be more stringent than the level that was proposed.

Response: The proposal BID discusses our selection process for the facilities that were used in the MACT floor determination. As described in Section 5.2 of the BID, facilities reporting the predominant use of powder coating technology (greater than 90 percent of all coating solids used) were excluded from the MACT floor calculations. The reason is that the use of powder coatings is not feasible for all large appliance applications. This is especially true for larger (pre-assembled) or heat-sensitive items. The need to bake and cure powder coatings makes their use a practical impossibility in many cases. Manufacturing or service industry machinery (SIC Code 3589) applied powder coatings nearly 99 percent of the time, while the remainder of the appliance manufacturing industry

indicated a moderate use of powder coatings ranging from none to about 45 percent of their coatings.

The EPA expects that new large appliance facilities will elect to use powder coatings to the greatest degree feasible for their operations. Those that can use powder coatings extensively (similar to the four facilities mentioned by the commenter) will likely have an emission rate significantly below the new source standard. Facilities whose operations limit the use of powder coatings will have a HAP emission rate closer to the new source limit.

3.9 Miscellaneous Issues

Comment: Several commenters (IV-D-1, IV-D-4 and IV-F-1(A), IV-D-7 and IV-F-1(B), IV-D-14, IV-D-15) felt that the EPA had failed to allow meaningful stakeholder involvement through much of this rule's development. Two of them pointed out in particular that the data base was changed and the final version was released just before proposal, and critical facility-specific information was not made available until 1 month after proposal. As a result, there was inadequate time for industry to review the information and verify the numbers used in the MACT floor determination. Another commenter (IV-D-15) felt that the EPA had provided the regulated community with misleading guidance regarding information the Agency said would be posted on the TTN website. The commenter said that nothing of substance was posted since July 1999, and all development material was placed in the docket and discovered only recently by the commenter. All of these commenters stated that the public comment period from December 22, 2000 to February 20, 2001 was not adequate to allow a review of all the new information, and complained that the EPA had repeatedly denied requests for an extension of the comment period. One of the commenters (IV-D-14) asked, on the industry's behalf, that the EPA grant a formal extension to the comment

period, stating that industry needed at least 6 more weeks to finish their review of the data base and to prepare meaningful comments.

Response: The EPA believes that the time allowed for review of this regulatory proposal was adequate. The Agency did allow additional time for comment following the public hearing on the proposed standards, which was held on February 9, 2001. A meeting was held with several stakeholders immediately following the hearing (see docket item IV-E-1), and a conference call was held to discuss issues and concerns raised by stakeholders on February 15, 2001 (docket item IV-E-2). During the February 15th phone call, EPA staff clarified that additional information corresponding to initial comments made on the proposal would be accepted until March 20, 2001. Also, comments related to issues raised at the public hearing could be submitted until March 9, 2001.

The EPA received no additional substantive comments, either before or after these cutoff dates. In particular, no specific comments were received on the large appliance data base (facility survey response information).

Comment: One commenter (IV-D-15) found discrepancies in the data that the EPA released regarding one of the commenter's facilities. For example, the data indicated emissions of 106,600 kg, while the commenter stated that the correct value is 133,000 kg. Use of this latter value would increase the computed emission rate from 0.127 kg/liter to 0.142 kg/liter. Also, the commenter said they could not reproduce the EPA's figure of 24,500 kg for emissions from cleaning operations at the facility.

The commenter also stated that the short timeframe allowed to complete the EPA's survey left no time for the commenter to perform adequate quality assurance. Thus, they requested that the EPA initiate a competent QA/QC process on the 12 percent

floor data used in developing the proposed emission limits. In addition, the commenter felt that the EPA should verify the sources of data used by responders. They wondered whether the high, low, or median values of the MSDS ranges were used in the responses to calculate species emissions.

Response: The EPA has performed quality checks since proposal to ensure that the calculated HAP emission rate for each surveyed facility accurately reflects the data they submitted to us. This review included confirming that we transcribed data correctly from the survey responses, and that individual HAP and solids content values were added correctly to obtain the facility totals. We were unable to reproduce the revised emission values claimed by the commenter, and no further details of the derivation of these values were submitted. Therefore, we have retained our original calculation results for this facility.

The EPA has relied on the data that the industry provided in response to the EPA survey. Every facility responding to this survey had the flexibility to report their operations and their HAP emissions using Material Safety Data Sheets (MSDS) or manufacturer formulation data information, combined with purchase or use records for the materials used in the coating operation. When manufacturing facilities completed the surveys and submitted them to the EPA, they were certifying that the data were accurate and true. The EPA solicited specific comments on the data as we reported it in our data base in an effort to correct any errors in our analysis. We did not receive any additional data (other than the revised emission rates submitted by this commenter). Considering the timeline for promulgation and the limited resources, the EPA is unable to perform further surveys and must rely on the data that we have already received.

The MSDS typically list each hazardous component of a material as a range; e.g., 5-10 percent. When a range was given,

we selected the median value between the low and high numbers (for this case, 7.5 percent) to use in the emission calculations.

Comment: One commenter (IV-D-10) expressed support for the EPA's use of OSHA reporting thresholds for HAP content (0.1 percent by mass or more for carcinogens, 1.0 percent for other HAP compounds), as proposed in §63.4141(a)(1)(i) and (a)(4). They felt that this approach would minimize the cost of the rule while ensuring compliance.

Response: The EPA agrees that use of the OSHA levels minimizes the industry burden since they are already reflected on MSDS sheets for materials and are familiar to material suppliers and users.

Comment: One commenter (IV-D-17) noted that five of the ASTM standards referenced in the proposal as voluntary consensus standards (preamble, Section V.H, 65 FR 81149) are out of date and have been replaced by more current versions, as follows:

| | | |
|---|---|---|
| D 1475-90 | is now | D 1475-98 |
| D 2369-95 | is now | D 2369-98 |
| D 3792-91 | is now | D 3792-99 |
| D 1979-91 | is now | D 1979-97 |
| D 3154-91 | is now | D 3154-00. |

Response: The EPA thanks the commenter for this information. The commenter offers ASTM standards that have been updated by ASTM and the year updated. Section 12(d) of the National Transfer Technology Transfer and Advancement Act (NTTAA) of 1995 (Public Law No. 104-113; 15 U.S.C. 272 note) directs the EPA to use voluntary consensus standards in their regulatory and procurement activities unless to do so would be inconsistent with applicable law or otherwise impractical. Voluntary consensus standards are technical standards developed or adopted by one or

more voluntary consensus bodies. The EPA conducts searches to identify standards compatible with EPA Methods, in this case EPA Methods 24 and 311.

First of all, ASTM Standard D-3154-00 is now referenced as ASTM D-3154-00, but still is not a standard we can reference as an acceptable alternative in lieu of EPA's standard reference Method.

The ASTM D1475-90, ASTM D2369-95, ASTM D3792-91, ASTM D4457-85 (Reapproved 91) and ASTM D1979-91, are incorporated by reference into Method 24. ASTM D1979-91, ASTM D3432-89, ASTM D4747-87, ASTM D4827-93, and ASTM PS9-94 are incorporated by reference in EPA Method 311. These standards are already acceptable procedures which were actually incorporated by reference in Method 24 as they were established at the time of EPA review.

However, the standards cannot be changed to reflect the dates specified by the commenter. The EPA cannot cite the new dates of the updated standards because it has not been able to determine if these updated versions are technically the same as the previously incorporated versions. If the updated versions of these methods were technically different from the previously incorporated versions, their use might change the applications of the methods. This might in turn affect the stringency of the emission limits that use Methods 24 and 311 to determine compliance.

Comment: Another commenter (IV-D-4) questioned the inclusion of two ASTM test methods, D2697-86 and D6093-97, for the determination of volume solids in the compliance calculations. They claimed that these two methods (referenced in proposed §63.4141(b)(1)) are not routinely run (if at all) by manufacturers of appliance coatings. They further stated that the EPA had not commented in the preamble on the viability of

these methods, which the commenter said they have continuously questioned as unrealistic and unreliable for compliance enforcement purposes.

Response: As discussed in the proposal preamble (65 FR 81148-50), the National Technology Transfer and Advancement Act of 1995 (NTTAA), section 12(d), directs the EPA to use voluntary consensus standards (VCS) in our regulatory and procurement activities if possible. The two ASTM methods referred to by the commenter are examples of these VCS.

Section 63.4141(b) in the proposed rule provided three options for determining the volume fraction of coating solids (nonvolatiles) for each coating: (1) use of either of the two referenced ASTM methods (D2697-86 (1998) or D6093-97), (2) use of information from the supplier or manufacturer of the material, or (3) performing the calculations shown in paragraph (b)(3) of that section. These options provide sources with the flexibility to choose the approach that is compatible with their preferences as well as the coating information available to them. We have revised the rule to indicate that no one of these options takes precedence over the others.

The commenter is reminded that the General Provisions, in §63.7(f) of subpart A of Part 63, allow alternatives to the specified test methods to be used if a validation and justification are submitted for the alternative methods. The commenter did not include any suggested alternatives to the methods shown in the proposal. However, affected sources wishing to use alternatives to the listed approaches may present those to the Agency for approval before using them for compliance determinations.

Comment: One commenter (IV-D-10) asked that the final rule provide credit for recovery and reuse of materials.

Response: The compliance equations provided in the proposed standards are to be used by facilities for determining total HAP emission rate in the units of the standards (kg organic HAP per liter coating solids used). Only those HAP emissions directly associated with large appliance surface coating operations are considered in these calculations. Equation 1 in §63.4151(e) includes an allowance for HAP-containing waste materials (such as paint sludge) that are sent to a hazardous waste TSDF. This recovered amount of HAP ($R_W$ in the equation) can be subtracted out in calculating the total HAP emissions from the facility. Since the HAP in this waste are sealed in a drum or other container for delivery to a TSDF, they are not included in the inventory of a facility's organic HAP air emissions.

The commenter did not describe any particular scenarios for which they felt credit was appropriate. The HAP which are used during the compliance period must be included as emissions. The term "used" has a meaning equivalent to "emitted." If certain materials are utilized and then recovered for reuse (such as a cleaning material used to clean lines that is collected and run through a distillation process at the facility for reuse), then only the portion not recovered (and, thus, assumed to be emitted) would be counted in the compliance equations. The Agency considers such recovery processes a positive step environmentally because the facility is collecting excess HAP liquid rather than allowing it to evaporate. The "credit" for these conservation efforts is that the amount of HAP considered "used" is less than the amount that was put into the process, and thus the facility may find that it can achieve compliance in a case where it may not have otherwise been able to do so.

Comment: Two commenters (IV-D-1, IV-D-15) stated that it is currently unclear how the EPA plans to handle the subject of curing solvents. These HAP emissions result from cross-linking

reactions in certain waterborne and powdercoat paints. One of the commenters (IV-D-15) felt that, if curing volatiles are to be considered as emissions contributors, EPA guidance is necessary on how they will be managed in terms of the potential discrepancy in reporting these emissions between Method 24 and Method 311. In the case of such a discrepancy, will the EPA use the new data retroactively for enforcement? The second commenter (IV-D-1) felt that the EPA had discounted or chosen to ignore this phenomenon in setting the standard. The view of these commenters was that, if the regulated community was made to include curing solvents in their compliance calculations, the EPA should reflect this fact in the data base and recalculate the MACT floor and the standard itself.

Response: Cure volatiles are the HAP that are formed and emitted by chemical reaction when certain waterborne or powder coatings are cured or dried at elevated temperatures. These HAP are contrasted with the volatile HAP that are added to a liquid coating when it is manufactured (and are listed in the formulation data). The subject of cure volatiles is complex, and data are limited and sometimes conflicting.

At the time that we requested data on coatings from industry, there was no consensus method for quantifying emissions of cure volatiles. The EPA's Method 311, for example, specifically excludes these emissions, and notes that a "separate or modified" test procedure must be used to measure cure volatiles. Since coating-specific data were unavailable, we did not consider cure volatiles as emissions contributors for the purpose of developing the proposed emission limits. As a result, cure volatiles need not be measured or reported in a facility's compliance calculations.

If, at some future time, an accepted method is developed to measure the HAP in cure volatiles, the EPA may decide to include these emissions in emission limits where they are applicable.

However, in order to do this, we would first have to reevaluate the actual emissions from large appliance facilities and likely make a new MACT floor determination. Any changes to the rule would involve a proposal and comment phase before becoming effective. At this time, however, the presence of curing volatiles is not taken into account in the emission limits and will not be considered in the calculations used to determine compliance.

Comment: One commenter (IV-D-1) asked for clarification regarding the work practice requirement proposed in §63.4093(d): "Mixing vessels used for organic-HAP-containing materials must be closed except when adding to, removing, or mixing the contents." They asked the following questions regarding the criteria defining a "closed" mixing vessel:

(a) What type of interface is allowed between the shaft of the mixer and the entrance to the mixing vessel?

(b) Is the vessel still considered closed if there is an annular space between the shaft and the vessel top?

(c) Must the lid of the mixing vessel be sealed or clamped down?

Response: Due to the variety of mixing vessel configurations, we have not specified the details of this work practice requirement. Generally, "closed" means that a cover is used which allows no visible holes, gaps, or other open spaces into the interior of the vessel. The cover may be a separate cover placed on the vessel or it may be an integral part of the vessel's structural design. In either case, when the vessel is in a closed condition no openings are allowed.

For mixing vessels designed with a space between the mixer shaft and the vessel top, this annular space is acceptable only during the actual mixing process. At all other times except when materials are being added or removed, the vessel must be

"closed." No clamping or sealing is required as long as the vessel is maintained with no openings.

The purpose of this work practice standard is to minimize losses of coating volatiles, which is already a goal of large appliance facilities in their efforts to reduce costs and optimize the production process. Thus, we believe that sources will seek opportunities to apply this standard in the best way to their own processes.

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15. SUPPLEMENTARY NOTES

EPA Task Order Project Officer: H. Lynn Dail, ESD/CCPG

16. ABSTRACT

National emission standards for control of HAP emissions from large appliance surface coating operations were proposed at 65 FR 81134 on December 22, 2000. This background information document (BID Volume II) provides: a summary of the public comments submitted on the proposal and the Agency's responses to these comments; a summary of the changes made to the rule since proposal; and the basis for these changes.

17. KEY WORDS AND DOCUMENT ANALYSIS

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